



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,163	03/05/2002	Tsukasa Tauchi	12844.3US01	9229

23552 7590 07/09/2003

MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER

NGUYEN, JIMMY

ART UNIT PAPER NUMBER

2829

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

48

Office Action Summary	Application No.	Applicant(s)	
	10/092,163	TAUCHI ET AL.	
	Examiner	Art Unit	
	Jimmy Nguyen	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-9, 11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Hennekes et al (US 6507185).

As to claims 1, 11, 13, Hennekes et al disclose (fig 1) an automatic semiconductor device testing apparatus comprising:

a tray (a platform contains two IC chip as shown in the figure 1) for holding a semiconductor device (IC chip on the tray) that has a cable, a device body connected with one end of the cable, and a connector connected with the other end of the cable, so that the connector can couple to a mating connector directly or indirectly with the device held in the tray;

an inspection connector (hole on the tray that mate with the probe 13) for automatically coupling to the connector held in the tray;

a probe (13) for applying or receiving signals to or from the device body (IC), being in contact with or close to terminals of the device body;

an inspection robot (7) for picking up the device body held in the tray and transporting it to the probe (13) to get contact with or close to;

a controller (the computer) to control the inspection robot (7); and

a tester (12) for testing the device by applying input signals to one side of the inspection connector or the probe (13) and receiving output signals from the other side.

As to claim 2, Hennekes et al disclose (fig 1) the tray (a platform contains two IC chip as shown in the figure 1) holds the cable near the device body so that the cable is set along a connecting direction of the device body, and that the cable can be guided in the connecting direction when the device body is removed from or restored into the tray.

As to claim 3, Hennekes et al disclose (fig 1) a pressing mechanism (7) for pressing the terminals of the device body (IC) on the probe (13) in the state that the device body is in contact with or close to the probe.

As to claims 4, 8, 9, Hennekes et al disclose (fig 1) a device body imaging device (19) for detecting the posture of the device body (IC) retained on the inspection robot, wherein said controller (the computer) includes a reference posture storing section for storing a reference retained posture, and a posture error calculating section for calculating an error between the reference retained posture and the retained posture detected by the device body imaging device, and controls the inspection robot to transport the device body onto the probe together with correction of the calculated error. (The computer will perform the calculation of the position and the displacement of the IC after taking the image from the camera)

As to claim 5, Hennekes et al disclose (fig 2) a tray transfer device (16, 17) for holding and transferring the tray (IC chip on the tray), wherein said controller (the computer) is adapted to control both of the tray transfer device (16,17) and the inspection robot (7) in synchronism with each other so that the device body (IC) can be transported from the detected position of the retained posture (by camera 19) by the device body (IC) imaging device to the probe (13) with the relative position between the device body (IC) and the cable maintained.

As to claims 6, 7, Hennekes et al disclose (fig 2) tray transfer device (16,17) is a rotation table to hold and rotatably transfer the tray, and the device body (1C) imaging device and the probe (13) are arranged along an arced locus concentric with the table, and wherein the controller controls the inspection robot so that the device body rotatably moves along the arced locus from the device body imaging device to the probe.

As to claim 12, Hennekes et al disclose (fig 1) the transport mechanism (2) is adapted to transfer back a tray, which holds the inspected device (1C), to the tray storage and wherein an unloader (7) unloads the returned (7) tray into an open space of the tray selecting mechanism.

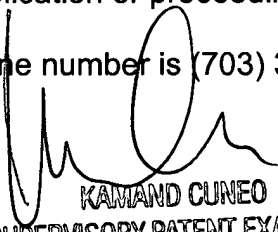
Allowable Subject Matter

3. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior arts or record do not disclose a front-end system for executing a heat-retaining process to keep the device body in a given temperature, a dust removing process to remove foreign substance from the device body, and an electrostatic discharge process to discharge static electricity from the device body; and a front-end robot for picking up the device body held on the tray, and transferring it to the front-end system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Nguyen at (703) 306-5858. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.


KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

JN.
June 27, 2003